

Section 5. Black Drum

Introduction

Black drum (*Pogonias cromis*) occur along the coasts of the Gulf of Mexico and the western Atlantic Ocean. The Atlantic portion of the stock most commonly ranges from the Chesapeake Bay to Florida. Because age distribution of this species varies greatly along the East Coast, southern fisheries mainly target younger, smaller fish, while northern fisheries target older, and larger fish. This species feeds upon clams, oysters, mussels, and crabs and depends upon these prey populations in Chesapeake Bay. Black drum spawn at the mouth of the Chesapeake Bay and seaside inlets of the Eastern Shore usually between April and early-June. After spawning, adult black drum typically disperse throughout the Bay and then migrate southward in late fall. It is possible that juvenile and adult black drum could over-winter in the Bay system during mild winters or if suitable thermal refuges were encountered. Tagging results from the Gulf Coast show little movement during the first three years of life for black drum, however little is known about juveniles of the Chesapeake Bay. Juvenile black drum prefer shallow waters typical of tidal estuary habitat. When they reach about 2.5 inches, some juveniles move into deeper water. The majority of black drum caught as part of the commercial or recreational fishery in the Bay are older, larger fish, with an average age in the Virginia fishery of over 20-years (CBP, 1994). Black drum are a long-lived species, with fish from 7 to 57 years old observed in Chesapeake Bay.

Chesapeake Bay FMP

The only management plan that exists for black drum is the Chesapeake Bay Fisheries Management Plan, adopted by Bay states in 1993. Refer to Table 5.1 for a synopsis of management strategies and actions. Because the impact of Chesapeake Bay fisheries on the black drum stock is uncertain, Bay jurisdictions monitor and regulate the commercial and recreational fisheries in this region to prevent their expansion.

Virginia monitors its commercial fishery through a mandatory permit and reporting system and the recreational fishery through the Marine Recreational Fisheries Statistics Survey (MRFFS). Harvest restrictions include a 16-inch TL minimum size limit, 120,000-pound annual commercial cap from tidal waters, and 1 fish/person/day recreational creel limit. Size and creel restrictions limit the harvest of immature fish and protect the spawning stock. Virginia began limited entry to the black drum fishery in 1994 (4 VAC 20-320-70).

Maryland adopted regulations for black drum in 1994 and again in 1999. A 16" minimum size was adopted for the recreational fishery with a creel limit of 1 fish/person/day and a maximum of 6 fish/boat. Beginning in 1998, the commercial catch of black drum from the Maryland coastal bays and tributaries, and the Maryland portion of the Chesapeake Bay and its tidal tributaries has been prohibited except for scientific investigation. Total allowable landings from the Maryland waters of the Atlantic Ocean are 1500 pounds with a minimum size limit of 16". The Potomac River Fisheries

Commission (PRFC) has adopted a 16-in minimum size limit and 1 fish/person/day creel limit for both the recreational and commercial fishery.

Virginia established a black drum management zone, which includes high use recreational areas in the southeast portion of the Chesapeake Bay. The zone is bounded by a line drawn from the Cape Charles Jetty to the 36A Buoy to the RN-28 Buoy, then south along the Baltimore Channel to the Fourth Island of the Chesapeake Bay Bridge-Tunnel, then north along the Chesapeake Bay Bridge-Tunnel to Fisherman's Island, then north along the coast, returning to the Cape Charles Jetty. This zone has been successful in minimizing conflicts between commercial and recreational anglers. Regulations prohibit the use of gill net or trotline from 7AM to 8:30PM within the management zone between May 1 and June 7. Gear conflicts have not been an issue in Maryland or the Potomac River.

Stock Status

The status of the black drum stock is unknown. The black drum fishery is important to the economies of the two poorest counties in Virginia, located on the Eastern Shore (Jones et al., 1990). The fishing season for black drum in Chesapeake Bay is short, with most catches from April to June. This species supports a targeted recreational fishery that contributes to the tourism economy of the Eastern Shore. Annual catch varies considerably in the northern part of this species' range. The lack of accurate catch and effort data for the mid-Atlantic black drum fishery makes it impossible to determine whether the long-term fluctuations in population abundance and the current decline of citation-size fish are a result of natural patterns in dominant year classes or a result of over exploitation and subsequent population decline. Yield-per-recruit analyses conducted by Jones in 2001 indicate that growth overfishing is not likely to be occurring in Chesapeake Bay, where the majority of the catch is of older fish (Jones, 2001).

These analyses indicate that the black drum population is vulnerable to heavy fishing directed at young fish in the southern portion of the species' range. Heavy fishing pressure on young fish before sexual maturity can lead to growth overfishing and recruitment overfishing. Recent bans on gillnetting in Florida and further fishing regulations on the population since 1989 are likely to limit the possibility of recruitment overfishing for this stock, but a coastwide stock assessment is needed to reliably assess the stock status. Limiting the number of young fish that survive to sexual maturity subsequently limits the number of older fish that migrate northward. Heavy fishing of young black drum compounds the impact of large reductions in biomass of older fish from the population, leading to rapid and dramatic loss of high percentages of the older fish from the population. Together, high fishing pressure on both old and young fish can be detrimental to the stock. This issue supports the need for a coast-wide management strategy for black drum.

Fishery Statistics

Annual black drum landings fluctuate within the Chesapeake Bay and reflect the highly variable abundance of black drum. This variation in abundance is not well understood, but may result from high fishing pressure on young fish in the southern portion of its range or as a result of fluctuations in dominant year classes. Timely reporting of landings data needs to continue to be stressed in the Chesapeake Bay fisheries of black drum, as reporting error can greatly skew an already limited understanding of distribution and abundance of this species.

In 2004, the recreational harvest of black drum totaled 6,687 pounds of fish in Maryland and 10,796 pounds of fish in Virginia. These landings are down from 2003 totals, 12,282 pounds and 96,729 pounds, Maryland and Virginia, respectively. Commercial harvests also decreased in 2004. In Maryland, 904 pounds and 24 pounds of black drum were reported in 2003 and 2004. These values are mainly the result of bycatch in pound nets and off the Atlantic coast since a commercial fishery is prohibited. In Virginia, 113,858 pounds and 66,325 pounds were reported in 2003 and 2004.

Conclusion

The status of the black drum stock is uncertain. The Chesapeake Bay Fisheries Management Plan is the only plan for black drum on the East Coast of the U.S. Regulations adopted by Bay states in 1994 focus on stabilizing harvest and protecting the stock within Chesapeake Bay until more information becomes available. The need for a coastwide management strategy should be evaluated. Regional stock assessments should be able to capture black drum age-specific migration patterns. Research and monitoring efforts should be focused on gathering information for a stock assessment.

References

Chesapeake Bay Program. 1993. Chesapeake Bay Black Drum Fishery Management Plan Agreement Commitment Report. Annapolis, MD.

Jones, C.M., K. H. Pollock, A. Ehtisham, and W. Hinkle. 1990. Assessment of the black drum recreational fishery, 1989, in Virginia. Old Dominion Univ. Res. Found. Tech. Rep. 90-2, Norfolk, VA, 100p.

Jones, C.M. 2001. Yield-per-recruit analysis for black drum, *Pogonias cromis*, along the East Coast of the United States and management strategies for Chesapeake Bay – Statistical Data Included. Fishery Bulletin: April, 2001.

Figure 5.1 Commercial Landings for Black Drum, Maryland and Virginia, 1950-2003

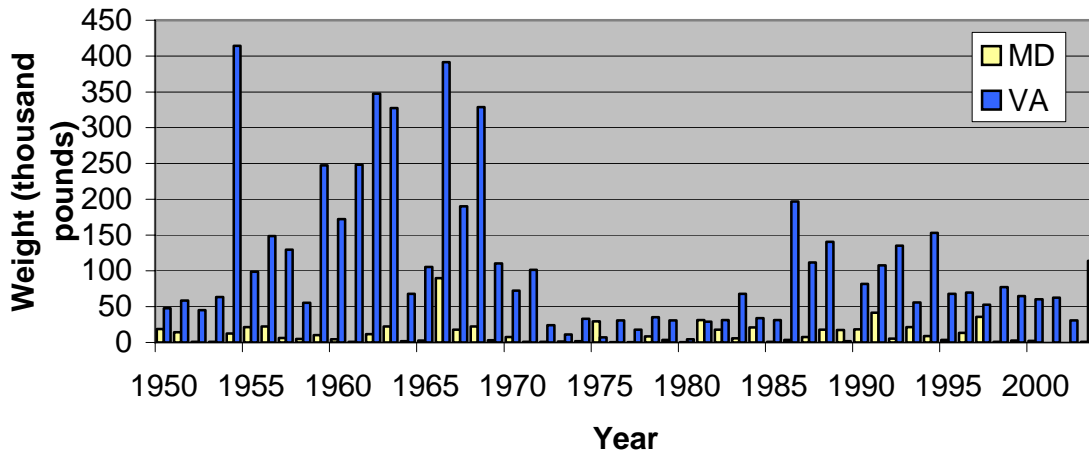


Figure 5.2 Estimated Recreational Harvest of Black Drum, Maryland and Virginia, 1983-2003

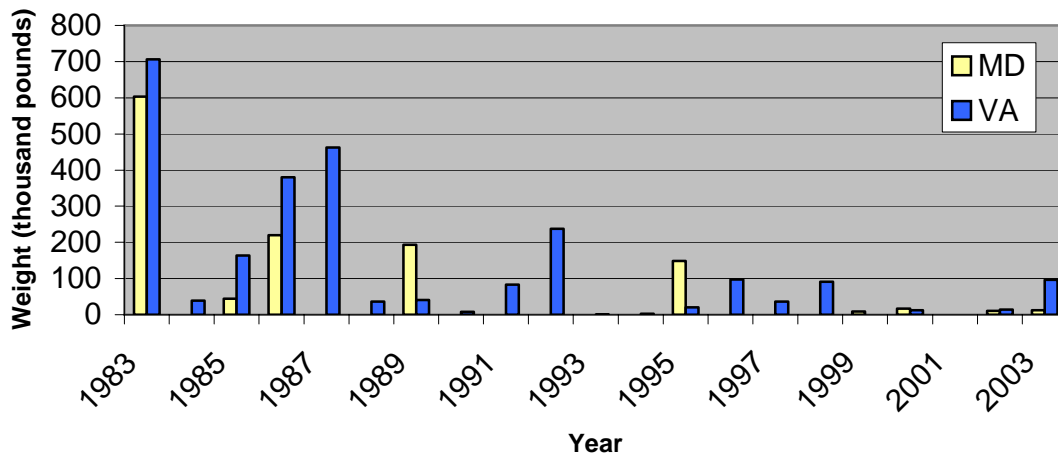


Table 5.1 1993 Chesapeake Bay Program Black Drum Implementation (10/05)

Problem Area	Action	Date	Comments
1. Status of Stock	1. Virginia (VA) will continue tagging black drum to determine coastal movements of the Chesapeake Bay Stock, fund research to determine age, fecundity, and spawning periodicity, and sample the commercial and recreational catch to determine length, weight, and sex. Maryland (MD) will continue to support the Old Dominion University (ODU) drum tagging study	Continue Completed	VA's tagging program is opportunistic and the ODU tagging study is complete. ODU has an ongoing otolith aging study for black drum. MD conducted an adult tagging program from commercial pound nets in 1998 and 1999. There have been a few tag returns each year since the program ended.
2. Fishing Mortality	2a VA will limit entry into the commercial black drum fishery & continue to require commercial black drum fisherman & buyer to obtain a permit and report weekly. VA will continue a 16-inch minimum size limit, 120,000 pound commercial quota, a 1 fish/person/day recreational creel limit, and continue monitoring commercial and recreational landings.	1992; 1994; Continue	Fully implemented VA will emphasize the need for timely reporting.
	2b MD will adopt a 16 inch minimum size limit and a 1 fish/person/day recreational creel limit	1994 Continue	MD REG: COMAR 08.02.05.15 The minimum size limit (16") with a creel limit of 1 fish/person/day and a maximum of 6 fish/boat.
	2c Potomac River Fisheries Commission (PFRC) will consider similar size and bag limits once VA and MD regulations are established	1994 Continue	PFRC adopted a 16-inch minimum size limit and 1 fish/person/day creel limit for recreational and commercial fisheries
	2d MD and PFRC will assess the need for commercial black drum harvest restrictions as data becomes available	1994 Continue	MD- Beginning in 1999, the commercial catch of black drum from the coastal bays and tributaries, and the Chesapeake Bay and its tidal tributaries is prohibited except for scientific investigation. Total allowable landings from the Atlantic Ocean is 1500 pounds.
3. Gear Conflicts	3. VA has established a Special Black Drum Management Zone, for "high use" areas. During May 1 through June 7, no gill net or trot line may be in established zone from 7:00 AM to 8:30 PM.	1992; Continue	Established to address commercial and recreational conflicts

Table 5.1 1993 Chesapeake Bay Program Black Drum Implementation (10/05)

Problem Area	Action	Date	Comments
4. Habitat Issues	4.1-7 Bay jurisdictions will continue to set water quality goals and review management programs under the 1987 Chesapeake Bay Agreement	Continue	The Chesapeake 2000 Agreement renewed the commitment to improve water quality and habitat for living resources. Juveniles utilize shallow water. Black drum feed on crabs, oysters, mussels and clams within the Bay.